REMARKS

Entry of the foregoing amendments, and reexamination and reconsideration of the subject application, and in light of the following remarks, are respectfully requested.

Amendments

Claims 1 and 9 have been amended in their transitional phrase to recite "consisting essentially of" to distinguish over prior art panels having as an integral part thereof an intumescent material. Nowhere in the present application is intumescence mentioned, least as part of the present invention, and so the present amendment is to exclude such materials. *See In re Johnson*, 194 USPQ 187 (CCPA 1977) (citing *In re Saunders*, 170 USPQ 213, 220 (CCPA 1971) ("To rule otherwise would let form triumph over substance, substantially eliminating the right of an applicant to retreat to an otherwise patentable species merely because he erroneously thought he was first with the genus when he filed.") No new matter is presented.

Rejection of claims 1, 2, 4, 6, and 8-12 under 35 U.S.C. §103

This rejection for obviousness over the combination of Friedman et al., Hentzelt et al, Terneu et al, Plumat et al., Arfsten et al., Benson et al., and Stephens et al., is respectfully traversed.

Addressing the rejection of claim 1 (claims 2, 4, 6, and 8 dependent thereon), that claim specifically recites (i) resin intermediate layers of particular compositions, (ii) at least one of four specific species of oxide films, and (iii) particular reflectance and transmittance values at particular wavelengths.

Friedman (et al.) is silent as to the presence of any oxide layer; the word "oxide" does not appear in the specification, and neither is there any mention of indium, tin, or antimony, the elements of the oxides recited in claim 1. Accordingly, there is nothing objectively from the whole of Friedman suggesting or teaching the need or presence for any oxide coating layer. None of the materials for surface treatments cited at ¶4 of the rejection include any oxide layer; neither the particular fluoropolymers, the glass compositions, the UV blockers, nor the corona treatment is even remotely related to the metal oxide layer of the rejected claim 1. The only mention of any IR blocker is in the abstract and claim 15 and none are specified. Rather, Friedman teaches away from the use of an oxide layer. "Other examples of such low emissivity coatings as commercially used are thin oxide coatings . . . . Such coatings exhibit an unpleasant interferential colour in reflection." (Col. 1, ln. 23-28; emphasis added.)

Henzelt et al. teaches an infra-red reflecting coating that must include *as a metal* Al, Cu, Ag, Au, or Pd, all of which are specifically excluded by the language of rejected claim 1 defining the *oxide* coating as "consisting essentially of" an oxide of indium, antimony, or tin. None of Henzelt's optional additional oxides (Si, Ti, Zr, Al, Ta) are required by the rejected claims. In addition, Henzelt's panel requires an intumescent material and with at least one IR-reflecting layer isolated therefrom (paragraph bridging cols. 1 and 2), the intumescent material being excluded by the present amendment.

While Henzelt does suggest the addition of (for example) an indium oxide, it is in combination with the necessary metal coating and intumescent layers. There is nothing in Henzelt, and no basis for eliminating the essential metal layer or intumescent material from Henzelt, because doing so would be improperly picking and choosing from the reference only so much as will support the rejection while failing to account for the context of that disclosure which is contrary to the rejection. *E.g., Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc.*, 230 USPQ 416, 419-420 (Fed. Cir. 1986), *cert. den.*, 108 S.Ct. 85 (1987); *Dennison Manufacturing Company v. Panduit Corp.*, 475 US 809, 229 USPQ 478, 479 (1986); *In re Wesslau*, 147 USPQ 391, 393 (C.C.P.A. 1965); *In re Mercier*, 185 USPQ 774, 778 (C.C.P.A. 1975)("all of the relevant teachings of the cited references must be considered in determining what they fairly teach to one having ordinary skill in the art." (emphasis in original)). Those teachings of the reference that lead one away from the claimed invention must be taken into account. *In re Marshall*, 198 U.S.P.Q. 344 (C.C.P.A. 1978).

Because Henzelt et al. require the presence of the metal layer and an intumescent, the rejection cannot ignore their presence and use only the indium oxide layer in the rejection. The existence of isolated elements and/or features in the prior art that are also recited in the rejected claims is not a sufficient basis for concluding that the combination of claimed elements would have been obvious, *Ex parte Hiyamizu*, 10 U.S.P.Q. 2d 1393 (B.P.A.I. 1988), absent evidence that would impel persons of ordinary skill in the art to do what is presently claimed. *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (B.P.A.I. 1993). Thus, Henzelt essentially teaches away from the claimed invention, wherein both claims 1 and 9 recite the heat ray reflection material as "consisting essentially of" what is recited, and that recitation does not include a metal layer or an intumescent layer. Moreover, the rejection completely fails to explain why one would modify Friedman et al. by adding a metal oxide layer when that reference neither describes nor suggests *any* metal or metal oxide coating layer, but instead teaches away from their inclusion. According to *Hiyamizu* and *Levengood*, the

existence of a particular metal oxide composition in the fire prevention art is not sufficient to make out a *prima facie* case of obviousness where the reference to be modified is completely silent on the presence of any metal oxide compositions.

Further, Friedman teaches away from using an intumescent material as required by Henzelt. The only motivations for modification clearly seen from the primary reference are to eliminate intumescent materials, eliminate incorporated wire mesh, eliminate high loads of fire resistive additives, and avoid laminates adhered at high temperatures (*see* col. 2, ln. 10-18). There rejection fails to support motivation for combining any oxide with Friedman et al. based on (i) the prior art references themselves, (ii) the knowledge of those of ordinary skill in the art that certain references, or disclosures in those references, are of special interest or importance in the field, or (iii) the nature of the problem to be solved, 'leading inventors to look to references relating to possible solutions to that problem.'" *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665, 69 U.S.P.Q.2d 1686 (Fed. Cir. 2000).

Similarly with regard to the citation of Terneu et al., , Plumat et al., Arfsten et al., Benson et al., and Stephens, the mere existence of an oxide layer does not render obvious its combination, especially with Friedman, absent one of the grounds mentioned in *Ruiz*, and in the complete absence of any related disclosure in Friedman et al.

Terneu et al. discloses a tin/indium oxide coating in combination with a second coating having titanium dioxide, a coating material not within the scope of rejected claims 1 and 9. Again, the essential combination of these two coatings cannot be separated where only the analogous to the coating claimed by applicants is used.

Arfsten et al. appear to make no mention of fire protection and are concerned with a process for making ITO coatings by dipping. Reflectance values are given only for 5,500nm and 9,500nm, with nothing mentioned about lower wavelength IR as recited in the present claims. Again, this is the mere presence in the art of an indium oxide coating, and without any appreciation for fire protection.

Benson et al. are concerned with allowing visible light to enter a structure, like a building, while preventing heat from escaping (col. 1, ln. 19-21), and provide bead spacers between opposing sandwiched panes to achieve such a structure. The only mention of wavelength is that IR of 2200nm (2.2μm) is transmitted while 7,000-10,000nm (7-10μm) is reflected (col. 2, ln. 52-58). In contrast, claims 1 and 9 require that at least 70% of 2500nm light be reflected. There is no resin intermediate layer.

Plumat et al. discuss a heat-insulating window that has an indium coating and reflects only around 40% (36% and 42% in Ex. 2) of IR at 2500nm, compared with the 70% or more recited in claims 1 and 9. Their structure requires a metal (gold) coating to reflect, but a metal coating is not within the scope of the "heat-ray reflection film" oxides recited in the claim as now amended.

Finally, Stephens is directed to a solar radiation panel, and the lowest wavelength tested, 5μm (5000nm) has a reflectance less than the at least 80% presently claimed for wavelengths greater than 3000nm.

Accordingly, the final rejection has not made a *prima facie* case of obviousness. The primary reference has no mention of oxide coatings, and the mere existence of such coatings does not render obvious their theoretical incorporation into a prior art reference without some motivation more than their existence, especially as here when the reference is completely silent on including such coatings and actually *teaches away* from such coatings. Accordingly, the primary reference explicitly teaches away from the combinations alleged to have been obvious. None of the cited references teaches the reflectivity characteristics claimed. And various references require compositions specifically excluded by the claim. The statement that "applicants have simply employed well-known materials and techniques" is not a legally sustainable basis for obvious because obviousness presumes the elements of the claim already exist somewhere in the art. The combination of any of the secondary references with the primary reference has been shown to be improper.

The statement that the recitation of "heat-ray reflection film being made of a material *consisting essentially of*' the oxides claimed does not exclude a metal coating layer because of the preamble includes "comprising" is clearly incorrect. A metal coating unquestionably effects the basic and novel characteristics of the invention because having such a coating would reduce transmission of visible light below the 60% recited in the claim. Additionally, a coating that is a metallic heat-ray reflective coating renders null the present claim limitation that the exact coating *consist essentially of* only the oxide combinations claimed. *E.g., AK Steel Corp. v. Sollac*, 344 F.3d 1234, 1239-1240, 68 U.S.P.Q.2d 1280 (Fed. Cir. 2003). Thus, while the "comprising" language in the preamble leaves the claim open-ended in many respects, the claim is not so opened ended as to redefine an explicit element of the claim, the "heat-ray reflection material," in a way that contradicts the explicit language of the claim. Accordingly, this rejection should now be withdrawn.

It is noted that applicants' example includes a fluoro- terpolymer, and so the previous remarks regarding THV in Friedman are withdrawn.)

Rejection under 35 U.S.C. 112, first paragraph

The rejection of claims 11 and 12 as failing to comply with the written description requirement is respectfully traversed. There basis for the rejection is a lack of *literal* disclosure for an average reflectance of "about 15%."

"The 'written description' requirement must be applied in the context of the of the particular invention and the state of the knowledge" and will vary with the nature and scope of the invention. *Capon v. Eshhar v. Dudas*, 76 USPQ2d 1078, 1084 (Fed. Cir. 2005).

The specification describes an average transmittance of 60% or more for visible rays (*e.g.*, p. 5, ln. 11-12). By definition, then, the combination of average reflectance and average absorption must be 40% or less. The visible light and reflectance values in Table 1 show that in both cases absorption was 7%. Accordingly, *by example*, applicants have described reflectances of less than 33%. The rejection does not explain why one of ordinary skill in the art would not read Table 1 and the specification as describing reflectances of less than 33%.

The rejection improperly ignores the physics and experimental results to focus on the "15% or less" language at page 3 to exclude reflectances between 15% and 33%. The rejection also ignores the entire context of that sentence at page 3: "Preferably, the heat-ray film has an average reflectance of 15% or less for visible rays." The claims need not be limited to the preferred embodiment. Neither must the claims to limited to the values in the examples. *In re Blaser*, 194 USPQ 122 (CCPA 1977) (disclosure of 60-200° sufficient for claiming range of 80-200°).

The rejection is contradictory in alleging that no values greater than 15% are described "other than the experimental value of 19%" because clearly values greater than 15% are described. Applicant need not have examples of every value less than 33%. The specification provides a written description of visible light reflectances from less than 33%, and provides specific examples of 12% and 19% showing that the inventors had possession of these two embodiments with reflectances less than 33%. The Office must elicidate a reasonable basis for why one of ordinary skill in the art would not be "reasonably" assured (the standard is *not* absolutely assured) that applicants have described panels with an average reflectance of about 15%. Accordingly, this rejection should now be withdrawn.